

A NEW SPIDER GENUS FROM THAILAND WITH A UNIQUE ANT-MIMICKING DEVICE, WITH DESCRIPTION OF SOME OTHER CASTIANEIRINE SPIDERS (ARANEAE: CORINNIDAE: CASTIANEIRINAE)

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A B S T R A C T

The male of *Pranburia mahannopi* n. gen. n. sp. is described. The spider exhibits a peculiar ant-mimicking device, in which a pair of brushes on the first femora is positioned so as, when joined together in front of the head, to create an ant's head. The related genera *Corinnomma* and *Castianeira* in S.E. Asia are delimited. The description of *Corinnomma severum* THORELL is emended and the copulatory organs of both sexes are illustrated. *Corinnomma harmandi* SIMON is a junior synonym of *C. severum*. *Corinnomma quadrataeniatum* SIMON is placed in *Castianeira* and *Corinnomma severum javanum* SIMON is elevated to species rank. *Corinnomma thorelli* SIMON, *C. javanum* SIMON new status and *C. quadrataeniatum* (SIMON) new combination are redescribed and the copulatory organs are illustrated for the first time; *Castianeira ciliata* new species, male and female from Sumatra and Malaysia, *Castianeira scotopoda* new species, male and female from Borneo and *Corinnomma rapax* new species, male from Sumatra are described and illustrated.

I N T R O D U C T I O N

The subfamily Castianeirinae, proposed in 1969 by REISKIND, is pantropical in distribution. Most representatives of this group are more or less ant-mimicking; the resemblance of these and other ant-mimicking spiders to ants is effected by morphological transformation as well as behaviour. Ant-mimicking in spiders is now believed to have a protective effect: ants behave more aggressively towards prospective predators than do spiders and are therefore avoided. Evidence for this in African mud-dauber wasps as predators of spiders was reported by JOCQUE (1988). As arachnoids have the head fused with the thorax, they possess one body part less than do insects. The morphological modifications in ant-mimicking spiders are diverse and designed for bridging the basic optical difference between spiders and ants. Generally they consist of an elongated and laterally compressed carapace and light transverse bands across the abdomen. In the more specialized forms, the missing body part in the spider (head) is created either by elongation and constriction of the carapace or abdomen or by greatly elongated chelicerae that are projected and expanded in front, for instance in males of some species of the salticid genus *Myrmarachne*. A new "head" is often provided with false eyes. These morphological

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transformations are supported by a modified, ant-like locomotion, while the first legs are lifted and moved searchingly about as if they were antennae. The result can be most deluding.

While sifting leaf litter in the Khao Sam Roi Yot National Park, Pranburi Province in Thailand, a castianeirine spider was caught in which, apart from the presence of the usual mimicking devices, the first pair of legs bore a thick brush around the distal part of the femur; when alarmed, the spider joined the femora together in front and slightly above the head. In this way the illusion of an ant's head was created, while the tibiae and metatarsi of the first leg pair were waved in the air. Several unusual morphological characters preclude placement in any of the existing castianeirine genera so that a new genus had to be established for this species.

During my exploratory visits to preserved parts of rainforest in the Malay Archipelago, I encountered several unknown, specialized ant-mimicking species in this group. Some of the new species are described here and description of some little known species from Indonesia, described by SIMON, is added.

Abbreviations: AME=anterior median eyes; ALE=anterior lateral eyes; PME=posterior median eyes; PLE=posterior lateral eyes; d=diameter; ds=dorsal spine; rd=retrodorsal spine; vs=ventral spine; pv=proventral spine; rv=retroventral spine; pl=prolateral spine; rl=retrolateral spine. MNHN=Muséum National d'Histoire Naturelle, Paris; ZMH=Zoologisches Museum Hamburg; NRS=Naturhistoriska Riksmuseet Stockholm; MSNG=Museo civico di Storia naturale "G.Doria", Genova.

CASTIANEIRINAE REISKIND

Distinctive Characters: male genital bulb completely covered by cymbium, with globular base, tapering distally to an apical embolus. Female genitalia with a simple pair of epigynal openings, through bursae copulatrices leading to heavily sclerotized spermathecae. Mouth-parts characteristic. Anterior tibiae and metatarsi bearing medium-sized to weak, rarely very strong ventral spines. Integument hairless or with normal and/or hirsute hairs.

The genus *Castianeira* is a generalized genus. It has been in use to accommodate moderately transformed ant-mimicking species. The American species probably are more closely related to the American genera *Mazax* and *Myrmecotypus* than they are to the Asian species, and similarly, the Asian species seem more related to the sympatric genus *Corinnomma* than to the American species. The New World species differ from the Asian species (REISKIND, 1969: 169) in the male palps by having a double loop in the sperm duct in the basal part of the bulb. In all Asian species of *Castianeira* and *Corinnomma*, there is a single, lateral loop; this character is shared with all the African species (8) of *Castianeira*, *Merenius*, *Cambalida* and *Copa* studied by me and with the Asian species of *Apochinomma* and *Copa* and the New World species *Myrmecotypus pilosus* (O.P.-C.). This is probably the plesiomorphic state, the double loop would be synapomorphic.

In the females of all Asian species, the vulva has concertina-like folds in the posterior part of the spermathecae, which character again is shared with *Corinnomma* and with the Asian species of *Copa*.

Key to the S.E. Asian Castianeirine Genera with Straight or Procurved Posterior Eye Row.

- la Clypeus 1–2 times larger than dAME; anterior tibiae with 2–3 pairs of ventral spines; trochanters notched
- b Clypeus 4 times larger than dAME; anterior tibiae with 5 pairs of ventral spines; trochanters not notched

Pranburia nov. gen.

- 2a Male cymbium with proximal retrolateral apophysis; eyes small, d PME 1/11–1/16 of head width

Corinnomma KARSCH

- b Retrolateral apophysis on male cymbium lacking; d PME 1/7–1/9 of head width

Castianeira KEYSERLING

***Pranburia* new genus**

Type species: *P. mahannopi* n.sp. DEELEMAN-REINHOLD

Diagnosis: Characters of castianeirine spiders with procurved posterior eye row. Differs from other spiders in the Castianeirinae by the presence of specialized brushes on the first pair of femora in the male; the clypeus is 4 times larger than the diameter of anterior median eye, fovea obsolete and the anterior tibiae with more than 3 pairs of ventral spines. Other differences are: labium longer than wide; leg IV of the same length as leg I; trochanters not notched.

Female not known at present.

The gender is feminine.

***Pranburia mahannopi* new species**

Figures 1–3

Diagnosis. Thorax widest at the level of coxae II and tapering behind. Carapace coarsely granulated and covered with rows of procumbent white plumose hair. Femur I and IV longer than carapace; anterior tibiae with 5 pairs of ventral spines. Embolus with additional subapical tooth.

Description (measurements in mm):

Male. Total length 6.3, carapace 2.9 long, width of head 0.9, width of thorax 1.7, height 1.1, pedicel 0.15, abdomen 3.3 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	3.1	0.5	3.1	1.9	1.4	10.0
leg II	2.2	0.6	2.1	1.6	1.0	7.5
leg III	2.1	0.6	1.5	1.6	0.9	6.7
leg IV	3.1	0.7	2.6	2.7	1.2	10.3
palp	1.0	0.4	0.45	-	1.2	

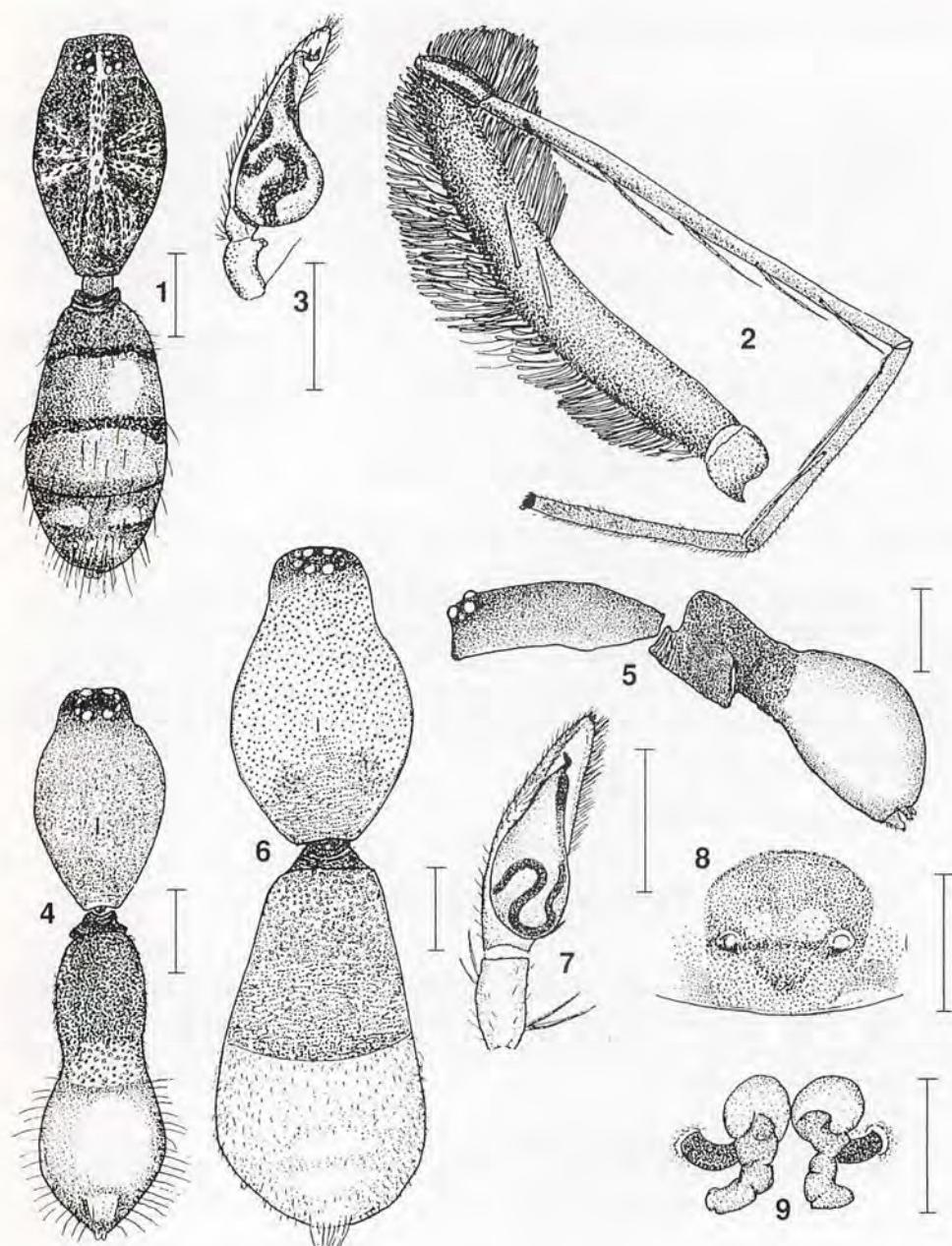


Plate 1. *Pranburia mahannopi* n. sp. 1, male holotype, carapace and abdomen, dorsal view; 2, left leg I, prolateral view; 3, right palp, latero-ventral view. *Castianeira ciliata* n.sp. 4, male holotype, carapace and abdomen, dorsal view; 5, lateral view; 6, female paratype, id., dorsal view; 7, male paratype, right palp, latero-ventral view; 8, female paratype, epigyne; 9, vulva, dorsal view. Scale = 0.5 mm.

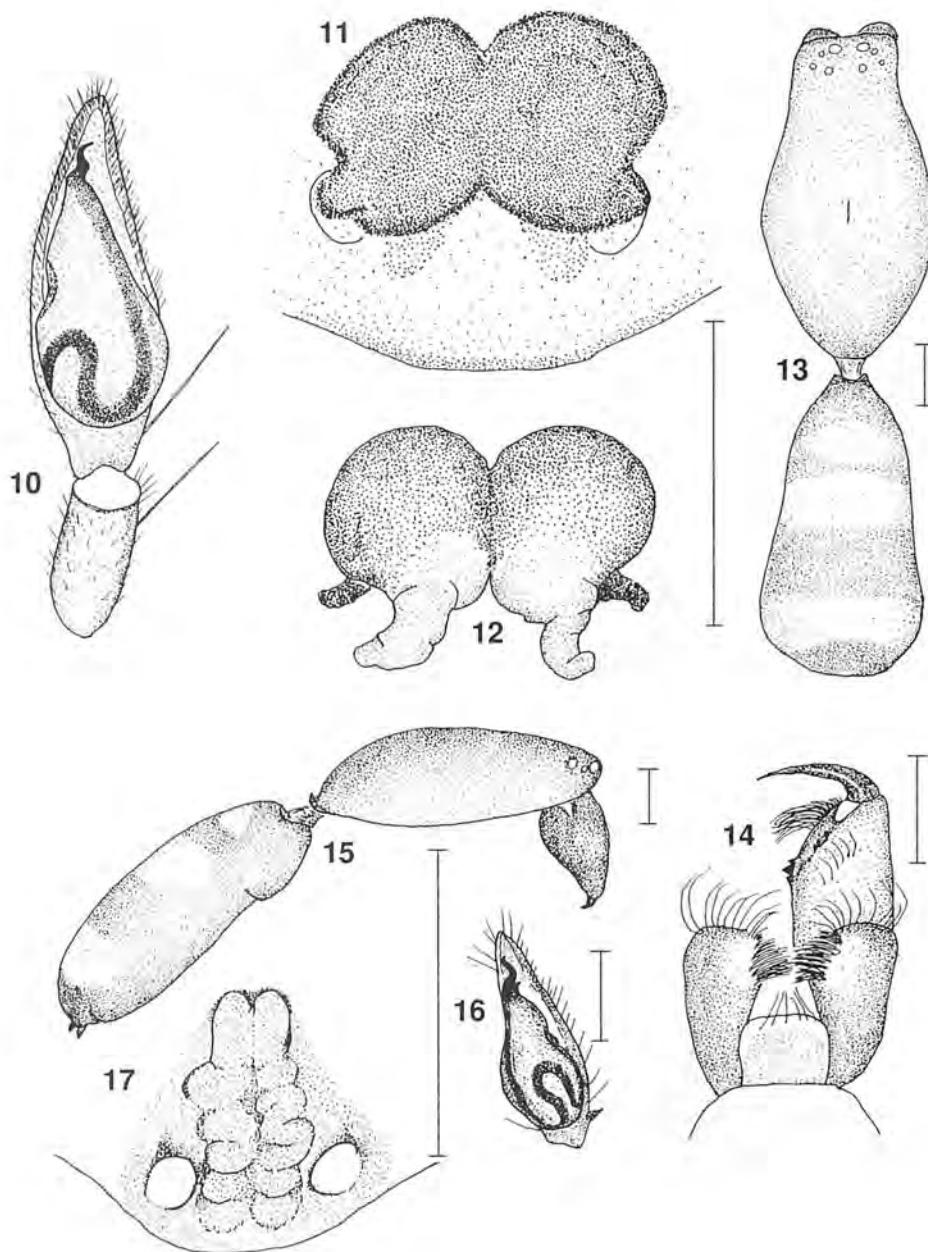


Plate II. *Castianeira scotopoda* n. sp. 10, male holotype, right palp, latero-ventral view; 11, female paratype, epigyne; 12, vulva, dorsal view. *Corinnomma seyerum* THORELL. 13, female (Sam Roi Yot), carapace and abdomen; 14, id., mouthparts, ventral view; 15, male (Erawan), carapace and abdomen, lateral view; 16, left palp, lateroventral view. *Castianeira quadritaeniata* (SIMON). 17, female holotype, vulva, dorsal view. Scale = 0.5 mm.

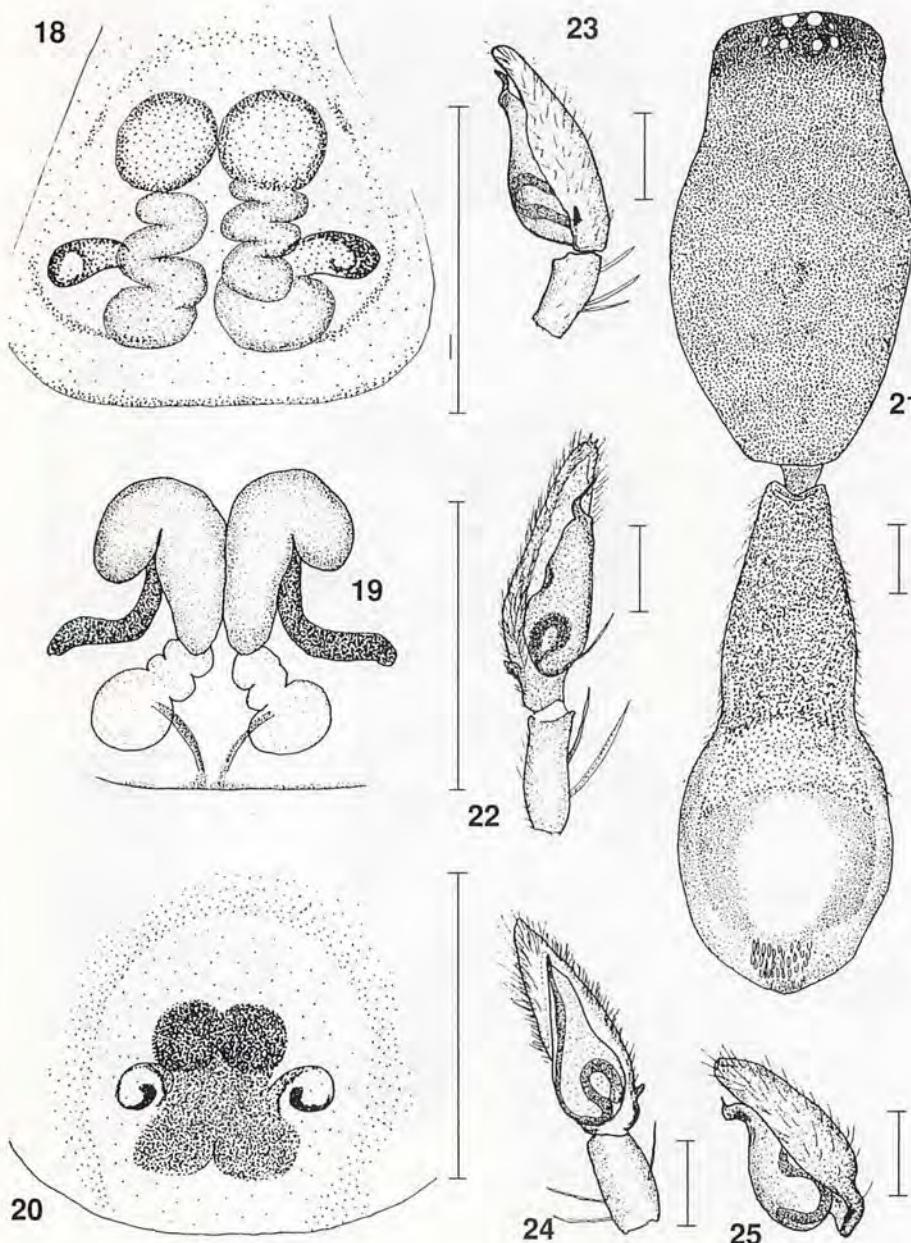


Plate III. *Corinnomma severum*. 18, female holotype of *C. harmandi* (Toulé Sap), epigyne; 19, vulva, dorsal view. *Corinnomma thorelli* SIMON. 20, female holotype (Cibodas), epigyne. *Corinnomma rapax* n. sp. 21, male holotype, carapace and abdomen, dorsal view; 22, right palp, lateroventral view. *Corinnomma severum*. 23, male (Palon), left palp, retrolateral view. *Corinnomma javanum* SIMON. 24, male holotype, left palp, ventral view; 25, id retrolateral view. Scale = 0.5 mm.

Carapace (fig. 1) dark brown, coarsely granulated and covered with rows of procumbent white feathery hair, arranged in a wide longitudinal band and some radiating narrower bands. Some longer erect bristles on the head and the posterior part of the abdomen. Sides of head moderately sinuated. In lateral view, dorsal line horizontal, falling down vertically in front, posteriorly sloping over one quarter of the carapace length. Thorax tapering behind, so that the widest part is in the anterior half of the carapace. *Eye group* occupying half of the head width, anterior row slightly recurved, AME much the largest, AME about their diameter apart, connivent with laterals; ALE and PLE almost connivent. Posterior row slightly procurved, the PLE a little larger than PME and ALE. Eyes relatively small, dPME about 1/15th of head width. Distance PME-PME 1.5 d. *Mouthparts* as in *Castianeira*; labium almost 2 times longer than wide. *Abdomen* (fig. 1) granulate, brown with a few dark bands and some transverse patches of white feathery hair. Front margin rising vertically; dorsum covered over 3/4 of its length by a scutum, venter with epigastric scutum and a postgenital plate covering about 2/3 of the length and 1/4 of the width of the abdomen. *Legs*: first coxae not lighter than other segments and than sternum; femur dark brown, other segments and legs II-IV uniform pale brown, femora and patellae with light longitudinal streak; apical third of first femora (fig. 2) surrounded with large brush composed of club-shaped hair, proximally a dorsal fringe. All tarsi with claw tufts. *Spination*: femur I with 2 ds and 2 pl, femur II with 2 ds and 1 ds apically, femora III and IV with 3 ds apically, femur IV with additionally 2 ds; tibiae I and II with 5 pairs of pv, tibiae III and IV with 4 pairs of vs, all metatarsi with 2 pairs of vs, metatarsi III and IV additionally with 2 pl and 2 rl. *Palp* (fig. 3): tibia with ventral apical protuberance; bulb more bulgy than in *C. severum*, single loop in sperm duct (reservoir) U-shaped, reaching over half the length of the bulb; embolus convoluted over 180°, with tiny subapical parallel tooth.

Female unknown.

Material examined. Male holotype: THAILAND, Pranburi Province, (Khao Sam Roi Yot National Park), sifting leaf litter of forest fringing limestone outcrop, 9.XII.1990, collected as subadult, moulted to maturity end of January 1991, killed 29.III.1991 (C.L.Deeleman + N.Mahannop).

Etymology. This intriguing species is named after Narong Mahannop, with whom I collected it.

Distribution. Only known from the type locality.

Adults of several species in the *Castianeira-Corinnomma* complex from S.E.Asia figure in my collection. In the prospected area, both genera are represented by generalized as well as specialized forms. Species of both genera occur syntopically. Three highly specialized new species exhibiting sexually dimorphic ant-mimicry are described and named below.

Castianeira KEYSERLING

Diagnosis (Asian species). A world-wide, generalized genus. Posterior eyes relatively large: dPME 1/7 to 1/9 of head width. dAME not more than 2X the size of dALE, usually less. Cymbium without proximal retrolateral apophysis.

Description. Posterior eye row procurved or straight; PME their diameter or less apart. Clypeus 1–2X diameter of AME; labium wider than long. Trochanters notched; spine armature of legs: femur I most often with 3 ds and 1 pl, tibia I with 3 pv, 2 or 3 rv, metatarsus I with 2 pairs of vs. Body length ranging from 5–11 mm in known Asian species. Dorsal scutum usually covering most of the abdomen in males, small in females, ventrally most often a postgenital plate over part of the width of the abdomen in males, in females absent. Colour pattern on body and legs is specific and can be helpful in distinguishing species.

Distribution. Tropical and subtropical regions of the world.

Castianeira ciliata new species

Figures 4–9

Diagnosis. A specialized ant-mimicking species. Male abdomen entirely covered by a sheath of plates, dorsal scutum constricted, posterior half hairless and glossy and provided with erect bristles. In female abdomen not constricted nor glossy, scutum covering about half the dorsum, posterior part of abdomen devoid of erect bristles; in both sexes a white plumose tuft on the posterior slope. In profile anterior end of abdomen angular, projected over the pedicel. Femur and tibia IV dark with contrasting light apical ring.

Description (measurements in mm):

Male, holotype. Total length 6.7, carapace 2.7 long, head width 1.0, thorax width 1.5, abdomen 4.0 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	1.8	0.7	1.7	1.7	1.1	7.0
leg II	1.8	0.7	1.5	1.6	1.1	6.7
leg III	1.7	0.7	1.5	1.8	1.0	6.7
leg IV	2.2	0.7	2.2	2.2	1.2	8.5
palp	0.7	0.3	0.3	-	1.0	

Female, paratype. Total length 8.6, carapace 3.8 long, head width 1.3, thorax width 2.3, abdomen 4.8 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	2.7	1.0	2.6	2.5	1.4	10.2
leg II	2.6	1.0	2.4	2.3	1.3	9.6
leg III	2.5	1.0	2.2	2.5	1.2	9.4
leg IV	3.4	1.1	3.2	3.8	1.6	13.1
palp	1.1	0.5	0.8	-	1.5	

Carapace (fig. 4–6) in males 2.4–2.6 mm, in females 3.3–3.8 (Bohorok), 4.1 mm (Ketambe), dark brown, finely granulated, widest part of thorax in the middle. **Eye region**

about half the head width, anterior row slightly recurved, dPME 1/9 of carapace width, dAME 2X larger than dALE, posterior row slightly procurved, posterior eyes about equal, the PME 1 d apart, 1/2 d from the laterals; clypeus 1–2 times larger than dAME. Anterior part of abdomen coarsely granulated, in profile anterior angle projected over the pedicel, in male dorsum and venter entirely covered with scuta, dorsally constricted in the anterior half, posterior half globular, hairless and glossy and provided with erect bristles. In female scutum covering less than half the dorsum and venter, entirely encircling anterior part of abdomen, constriction and glossy part lacking, posterior part of abdomen devoid of erect bristles, sometimes with vague transverse light bands. A white plumose tuft on the posterior slope in both sexes. *Legs*: coxae I–III light, contrasting with dark sternum, coxa IV brown; all femora dark brown, remaining segments light, in leg IV all segments dark with light tip, sometimes also light base. *Spination*: femora I and II with 2–3 ds and 1–2 pl and 1 ds apically, femora III and IV with 2 ds, 1 pl which in leg IV is often lacking and 3 ds apically; tibiae I and II with 3 pv, 2 rv in the males, 3 rv in females, tibiae III and IV with 2 pv, 2 rv and 2 pl, 2 rl and 1 ds and 1 pair of apical vs; all metatarsi with 2 pairs of vs, metatarsi III and IV additionally with 2 pl and 2 rl. Dorsal femoral spines strong, other spines normal.

Palp (fig. 7): bulb slender, loop in sperm duct U-shaped, almost half the length of the bulb. *Epigyne and vulva*: fig. 8 and 9.

Material examined. **Male holotype:** N.SUMATRA, Gunung Leuser National park, Bohorok Orang Utan rehabilitation Centre, primary dipterocarp forest, sifting leaf litter near Bohorok river, 7.VII.82 (P.R. + C.L.Deeleman). **Paratypes:** 2 males and 1 female, same data, on slope, 27.V.83 (S.Djojosudarmo); 1 female, same data, 10. VI. 83 (S.Djojosudarmo); 1 male, running on trail 4, 2 females, 10+14.VI.83 (P.R. + C.L.Deeleman); 1 female, running with cricket in chelicerae, 1.I.84 (P.R. + C.L.Deeleman); 1 female, Gunung Leuser, Ketambe Research Station, 2-4.III.86 (S.Djojosudarmo). **Other material:** SUMATRA, JAMBI PROVINCE: 1 male, Gn.Kerinci Seblat National Park, 21–30.VII.1988 (S.Djojosudarmo). MALAY PENINSULA: 1 male, Genting Highlands, 29.VII.1980 (P.R. + C.L.Deeleman).

Etymology. This species is named for the conspicuous bristles on the abdomen.

Distribution. Sumatra, Malay Peninsula. In the Gunung Leuser National park it occurs together with *Corinnomma rapax* n.sp.

Castianeira scotopoda new species

Figures 10–12

Diagnosis. Very similar to *C.ciliata* n.sp., but erect bristles on abdomen lacking or very scarce; legs darker, in male femora dark brown, rest middle brown, leg IV uniform dark brown; in female, femur I and II basally dark, distally pale brown, patellae and tibiae pale brown, metatarsi dark, tarsi pale. Copulatory organs distinctive.

Description (measurements in mm):

Male, holotype: total length 8.0, carapace 3.2 long, head width 1.0, thorax width 2.0, abdomen 4.7 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	2.6	0.8	2.6	2.6	1.4	9.8
leg II	2.5	0.8	2.4	2.4	1.4	9.5
leg III	2.6	0.8	2.2	2.5	1.4	9.5
leg IV	3.4	0.9	3.3	3.9	1.3	12.8
palp	1.0	0.4	0.5	-	1.3	

Female, paratype: total length 9.0, carapace 4.2 long, head width 1.5, thorax width 2.3, abdomen 4.7 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	3.2	1.1	2.9	2.9	1.7	11.8
leg II	3.3	1.1	3.2	2.9	1.6	12.1
leg III	3.2	1.0	2.7	3.1	1.4	11.4
leg IV	3.8	1.2	4.1	4.4	1.9	16.4
palp	1.4	0.6	1.0	-	1.7	

Carapace in males 3.2–3.6 mm, in females 4.0–4.3 mm. Carapace, abdomen and legs as in *C. ciliata* n.sp., but erect bristles on abdomen absent and posterior tuft less dense. *Eyes*: dPME 1/9 of head width. *Legs*: anterior metatarsi dark, leg IV dark, without light rings. *Abdomen* angular, projected over pedicel. *Spination* as in *C. ciliata* n.sp. *Male palp* (fig. 10): loop of sperm duct shorter than in *ciliata* (almost 1/3 of bulb) and embolus tip different. *Epigyne and vulva*: fig. 11 and 12.

Material examined. **Male holotype:** W.SARAWAK (BORNEO), Bako National Park, 30.III.1985 (P.R. + C.L.Deeleman). **Paratypes:** 1 male and 1 female, same data, walking on path; 2 females, Mt. Serapi, 300 m, (near Kuching), clearing in forest, on the ground, 4.IV.85 (P.R. + C.L.Deeleman).

Etymology. The name is derived from the Greek σκοτος = dark, and πουσ = foot (leg).

Distribution. Only known from 2 localities in NW.Sarawak.

Castianeira quadritaeniata (SIMON) new combination

Figures 17, 26

Corinnomma quadritaeniatum SIMON 1905: 69 (female, Palabuan, West Java).

Diagnosis. Distinct from other known Asian species by the small size and the light femur IV. General shape stereotyped, abdomen with several wide transverse bands. Epigyne and vulva easily distinguishable from that of other species by the bacilliform anterior part of the spermathecae and the large copulatory openings in posterior position.

Redescription. (measurements in mm).

Female, holotype. Total length 5.8, carapace 2.6 long, head width 1.0, thorax width 1.5, abdomen 2.9 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	1.5	0.6	1.4	1.4	1.0	5.9
leg II	1.6	0.6	1.2	1.0	0.9	5.3
leg III	missing					
leg IV	2.0	0.8	1.9	2.2	1.0	7.9
palp	0.7	0.3	0.5	-	1.0	

Carapace weakly sinuated alongside the head. *Eyes*: dAME 1/8 of head width, MA eyes barely larger than AL eyes, PM eyes 1 d apart, PM-PL 1 d, AL-PL 1 d; clypeus the size of the AME. *Abdomen* (fig. 26) with smooth scutum over 1/3 abdominal length, with anterior narrow transverse band dorsally, made up of white hair; behind the scutum a wide white band barely reaching the sides opposite a wide ventral band; posteriorly a wide dorsal band in front of the spinnerets. *Legs*: coxae I–III light, coxa IV dark; anterior femora dark, with light stripes towards the apex, remaining segments light; legs III and right leg IV missing, femur and tarsus of leg IV light, tibia and metatarsus dark, light apical ring on tibia not apparent; palps dark. *Spination*: femur I with 3 ds and 1 pl; tibia I with 3 pl and 2 rl. Dorsal spine on tibia IV present. *Vulva* fig. 17, with anterior part of spermathecae bacilliform; position of openings near posterior margin.

Male Unknown.

Material examined. Female holotype: W. JAVA, Palabuan (MNHN 12715)

Distribution. Only known from the type locality.

***Corinnomma* KARSCH**

Diagnosis. Species of this genus differ from all other castianeirine spiders by the presence of a proximal retrolateral apophysis on the male palpal cymbium. Eyes relatively small: dpME 1/11–1/16 of width of head; dAME 2–3 times the size of dALE; PME 1.5–3X their diameter apart. Labium as long as wide. For the rest, similar to *Castianeira*.

Distribution. Tropical and subtropical Asia; Africa?

***Corinnomma severum* THORELL**

Figures 13–16, 18, 19, 23

Corinna severa THORELL, 1877: 481 (description male, Kendari, Sulawesi).

Corinnomma severum: KARSCH, 1880: 375

Corinnomma harmandi SIMON, 1886: 24 (description female, Tonlé Sap, Cambodia); SCHENKEL, 1963: 269, fig. 152 (male, China, “Kony-Tschiu, Szetschuan, 1908”); GRAVELY, 1931: 276, fig. 20 F (female) New synonymy.

Castianeira himalayensis: TIKADER 1981: 264, fig 14–16 (female, India) (misidentification).

Diagnosis: femora dark, in the distal half with a pair of longitudinal streaks of white hair, tibia IV with white apical ring, in dark specimens, mostly males, the light

markings are not apparent and the whole animal appears black. Abdomen widening distally, posteriorly truncate, black with several transverse bands of white plumose hair. Male palp: embolus with a tiny tooth at the base. Epigynal plate trapezoid, with sides converging anteriorly, bursae apparent as a pair of transverse slits in the posterior half, extending sideways well beyond the spermathecae.

Additions to description. Size variable, total length of females ranging from 11.0 mm (type of *harmandi*) to 7.0 mm (Khao Yai), of males from 11.0 mm (holotype) and 10.0 mm (Szechwan) to 7.0 mm (Erawan). *Carapace* (fig. 13 and 15) length/width ratio 8/5, head/thorax ratio 3/4–3/5. Sides of head weakly sinuated. *Eyes*: dPME 1/11 width of carapace, dAME 2 times dALE, PME 2–3 d apart. Clypeus equal to dAME. *Mouthparts* fig. 14. *Legs*: length femur I 0.6 times the length of carapace. In most females coxae light, femora I–II dark with 2 longitudinal light streaks distally, femur IV light streaks lacking; patellae predominantly lighter, tibiae, metatarsi and tarsi pale to middle brown, tibia IV dark with light apical ring. In dark specimens (some males) the light streaks and the tibial light rings vague or lacking. *Spination*: femur I with 2 ds and 1–2 pl, 1 ds apically, femur II with 2 ds, 2 pl, 0–1 small rl and 2 ds apically, femur III and IV with 3 ds and 2 pl, 0–2 rl, 0–2 apically; tibiae I and II with 3 pv, 2 rv, tibiae III and IV with 2 pv, 2 rv and 2 pl, 2 rl and 1 ds, in the females with also 1 pair of apical vs; all metatarsi with 2 pairs of vs, metatarsi III and IV additionally with 2 pl and 2 rl. *Abdomen* fig. 13 and 15, widest distally and truncated behind and scutum extended over the greater part of the dorsum in the male, scutum small in the female; ventral epigastric scutum present in both sexes, in males a longitudinal postgenital plate stretching over the whole length and 1/2 of the width of the abdomen. The abdominal pattern seems to be variable and consists usually of one broad band of white hair and anteriorly sometimes one or several smaller bands; these bands may or may not be continued ventrally. In old material these bands often have been rubbed off. *Male palp* fig. 16, 23; femur and patella with 2 ds, 1 pl, tibia with 1 ds, 2 pl; sperm duct in bulb with U-shaped loop which occupies about half the bulb length. *Epigyne and vulva* fig. 18 and 19.

Material examined. **Male holotype**, INDONESIA, Sulawesi, Kendari (MSNG), 1 male paratype, id., (MNHN 6718); 1 male, Moluccas, Ambon, outside Ambon town, in tree, 21.VIII.92 (C.L.Deeleman). **Female** (holotype of *C.harmandi*), CAMBODIA, Tonlé Sap (MNHN 3916); CHINA: 1 male, Szechwan, det. Schenkel (MNHN); THAILAND: 1 male, Kanchanaburi Province, Erawan National Park, running on the road, 15.XI.1987; 1 female, E.Thailand, Sakhon Nakhon, King's Palace Garden, evergreen secondary forest, 9.I.1989; 1 female, Nakhon Nayok Province, Khao Yai National Park Headquarters, pitfall trap in secondary forest behind bungalow, 2–9.III.1986, 1 subad. female, id., in rolled dead leaf, 3.III.86; 1 female, Pranburi Province, Sam Roi Yot National Park, leaf litter, 31.XII.88 (all P.R. + C.L.Deeleman); BURMA: 2 males, 1 female, Palon (NRS 1331a), id., 2 males, 1 female (MNHN); 1 male, 1 female, Rangoon (Oates) (NRS 1331b), id., 1 male 1 female (MNHN); SINGAPORE: 1 male, Flint Ridge, in shrub, 7.IX.92 (C.L.Deeleman + Joseph Koh).

Distribution. Tropical East Asia. The species has been found on roads, in gardens, near human habitations and in secondary forest, never in rainforest.

Remark. A male and female from N.W. India, identified as *C. harmandi* (Dehra Dun, el.700 m, MNHNP 12099) (SIMON 1897: 253), do not belong to this species.

Note on the synonymy of *harmandi*. The studied males from Burma agree in all respects with the type male. The principal difference lies in the larger size of the specimens from Kendari and the black colour of the coxae in the latter (THORELL 1877 : 481). The structure of the male palp is indistinguishable.

Corinnomma rapax new species

Figures 21–22

Diagnosis. Large ant-like spider, differs from the other species treated here by the more elongate carapace (length/width ratio almost 2/1). Abdomen transformed in a similar way as in the two new *Castianeira* species described above with a globular, glossy hind part, but proximal end of abdomen tapering towards pedicel rather than being projected over it and abdominal dorsal scutum not quite reaching the spinnerets.

Description (measurements in mm):

Male, holotype. Total length 12.0, carapace 5.4 long, head width 1.9, thorax width 2.7, abdomen 6.2 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	4.1	1.2	3.8	3.8	1.9	14.8
leg II	3.8	1.2	3.5	3.4	1.9	13.8
leg III	3.4	1.0	2.9	3.1	1.5	11.9
leg IV	4.8	1.1	3.9	5.3	1.9	17.0
palp	1.4	0.5	0.7	-	1.7	

Male, Bohorok (measurements in mm): total length 9.1, carapace 4.1 long, head width 1.4, thorax width 2.1, abdomen 5.0 long, femur I 3.4. *Carapace* (fig. 21) dark brown to black, finely granulated, head wide, sides of head barely sinuated; *eye region* a little more than half the head width, dPME 1/12 of width of head, dAME 2 times dALE, posterior row straight, posterior eyes about equal, PME 2 d apart, 1 d from the laterals. Clypeus almost as large as AME. *Abdomen* covered with scutum over nearly all its length, constricted in the middle, constriction marked with a band of white hair encircling the body; posterior to the constriction the dorsal scutum is globular, hairless and glossy; on the posterior slope, posterior to the margin of the scutum, two dots of white plumose hair in the middle; ventrally, postgenital plate extended over 1/3 of width of the posterior part and over whole length, in the type interrupted subapically. *Legs:* all coxae light, contrasting with dark sternum, anterior femora longitudinally streaked yellow/brown, posterior femora brown, sometimes with yellow blotches; tibiae and metatarsi I–III brown without or with light longitudinal streaks, in leg IV tibia and metatarsus dark brown with conspicuous light apical band. *Spination* as *C. severum*, dorsal spine on tibia IV lacking. *Palp* (fig. 22): bulb slender, loop in sperm duct extended over almost half the bulb length.

Female unknown.

Material examined. Male holotype: N.SUMATRA, Gunung Leuser National park, Ketambe Research Station, 2-4.III.86 (Suharto Djojosudarmo); 1 male, id, Bohorok, Orang Utan rehabilitation Centre, primary dipterocarp forest, near Bohorok river, walking on fern leaf, 30.XII.83 (C.L.Deeleman).

Etymology. From the latin *rapax* = grasping, rapacious.

Distribution. Only known from Gunung Leuser National park, where it occurs syntopically with *Castianeira ciliata* n.sp.

Corinnomma thorelli SIMON

Figures 20, 27

Corinnomma thorelli SIMON, 1905: 68 (description female, male, Java)

Diagnosis. *Corinnomma thorelli* differs from *C.severum* in the colour pattern on femur IV which is light in the middle, with a dark apex, and by the slender palp with reduced retrolateral apophysis. The sides of the epigyne are more parallel and arched rather than convergent; the openings are circular, the bursae arched.

Addition to the description (measurements in mm).

Female, holotype. Total length 8.8, carapace 3.8 long, head width 1.8, thorax width 2.7, abdomen 4.8 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	2.6	1.0	2.5	2.3	1.3	9.7
leg II	2.6	1.0	2.6	2.3	1.3	9.8
leg III	2.3	1.0	2.0	2.2	1.1	8.6
leg IV	3.1	1.1	2.9	3.6	1.3	12.0
Palp	1.2	0.5	0.9	-	1.4	

The carapace is described as black, the colour of the holotype however is pale chestnut on the carapace, yellowish red on the legs; this may be due to a discolouring process operating since the original description. The material in Paris has the carapace chestnut brown, the legs a shade paler; the fresh subadult female from the type locality is coloured according to the original description. *Carapace* sinuated alongside the head. *Eyes:* dPME 1/11–1/12 of head width; dAME 2–3 x the size of dALE, posterior row procurved, posterior eyes about equal, PME 2 d apart, 1 d from the laterals; clypeus equal to dAME. *Legs:* all coxae light, femora with longitudinal light stripes. Leg colouring similar to *C.severum* except for the fourth legs, the femur of which has a lighter band in the middle and a dark apex and dark prolateral surface and tibia and metatarsus of leg IV have a light apical ring. *Abdomen* without light bands. *Spination:* femur I with 3 ds and 1 pl, tibia I with 3 pairs of vs, metatarsus I with 2 pairs of vs; the posterior tibiae lack dorsal spines.

The epigyne (fig. 20) is distinct by the parallel arched lateral margins, the copulatory openings are circular, the bursae curved backward towards opening. **Material from Palabuan** (measurements in mm): male: total length 8.3, carapace 4.0 long, width of head 1.7, width of thorax 2.4, width of posterior border 0.7; leg I; femur 2.4, patella 1.0, tibia 2.5, metatarsus 2.3, tarsus 1.4, total 9.6; leg IV total 10.9; palp: femur 1.0, patella 0.4, tibia 0.6, tarsus 1.1. Largest female: total length 10.0, carapace 4.0 long, head width 1.8, thorax width 2.4, width of posterior border 0.7; leg I femur 2.8, patella 1.1, tibia 2.5, metatarsus 2.3, tarsus 1.4, total 10.1; palp: femur 1.1, patella 0.5, tibia 1.0, tarsus 1, 4; smallest female: total length 8.6, carapace 3.6 long. Femora darkened distally. *Abdomen* in the male truncated behind, more rounded in the females. *Male palp* (fig. 27) very slender, bearing a tiny retrolateral apophysis on the cymbium; the distal half of the bulb is more plump and rounded than in *severum*.

Material examined. Female holotype: INDONESIA: W. Java: 1 female (marked "holotype"), Cibodas, 25-28.III.1904, (K.Kraepelin) (ZMH); id., 1 subadult female, 1450 m, 10.XII.1986 (S.Djojosudarmo); 1 male, 4 females, labelled "*Corinnomma thorelli*, Java: Palabuan" (MNHN 1.3057); 1 female labelled *Corinnomma severum javanum*, with 1 female of *Castianeira* spec.

Note: in the original description, the locality is "Java without locality", but on the label of the type figures the name Ciboda; in *C.javanum* treated below, the reverse is seen. The description applies unequivocally to the material labelled *thorelli* both in the Hamburg and the Paris collection and not *javanum*. The localities mentioned in the description are at variance with the above and it is suggested that the labels bearing the locality of the types of *thorelli* and *javanum* in Hamburg have been interchanged.

Corinnomma javanum SIMON new status

Figures 24, 25, 28

Corinnomma severum javanum SIMON 1905: 68 (male, Cibodas, Java)

No adequate description of this species has been published.

Diagnosis. Similar to the syntopic *C.thorelli*, but head wider, sides of head feebly sinuated. Legs more uniform in colour, femur IV without any light markings, tibia IV lacking apical ring. Male palp not so slender and distal part of bulb narrowed and curved ventrally, very similar to that in *severum* but embolus clearly shorter. Vulval openings close to spermatheca and not projecting laterally.

Description (measurements in mm):

Male, holotype. Total length 9.2, carapace 4.6 long, head width 2.1, thorax width 2.7, abdomen 4.3 long.

	femur	patella	tibia	metatarsus	tarsus	total
leg I	3.1	1.0	3.0	2.7	1.5	11.3
leg II	3.0	1.0	2.7	2.6	1.4	10.7
leg III	2.8	1.0	2.3	2.5	1.3	9.9
leg IV	4.4	1.0	3.5	4.3	1.7	14.9
Palp	1.1	0.4	0.5		1.4	

Carapace finely granulated, sides of head barely sinuated; *eyes*: dPME 1/12–1/13 of width of head, AME 3 X the size of ALE, PME 2–3 d apart, 1 d from the laterals. *Abdomen* truncated behind in the male, not so in the female. *Legs*: coxae I–III light, coxa IV dark, legs uniform in colour. *Spination* in male, femur I with 1–2 rd, 3 ds and 2–3 pl, in the female the femur I bears 3 dorsal and 1 prolateral spine only; dorsal spine in tibia IV present. Palp fig. 24, 25, loop in sperm duct extended over 1/3 of bulb length; cymbium covered with plumose hair. *Vulva* fig. 28, vulval openings closer to spermatheca, not extending laterally, bursae curved forward toward opening.

Material examined: 1 male, holotype? (marked "severum"), INDONESIA, Java, 8.VI.04 (K.Kraepelin) (ZMH) (see under *C.thorelli*, material examined); 2 males, 1 female, W.Java, Palabuan.

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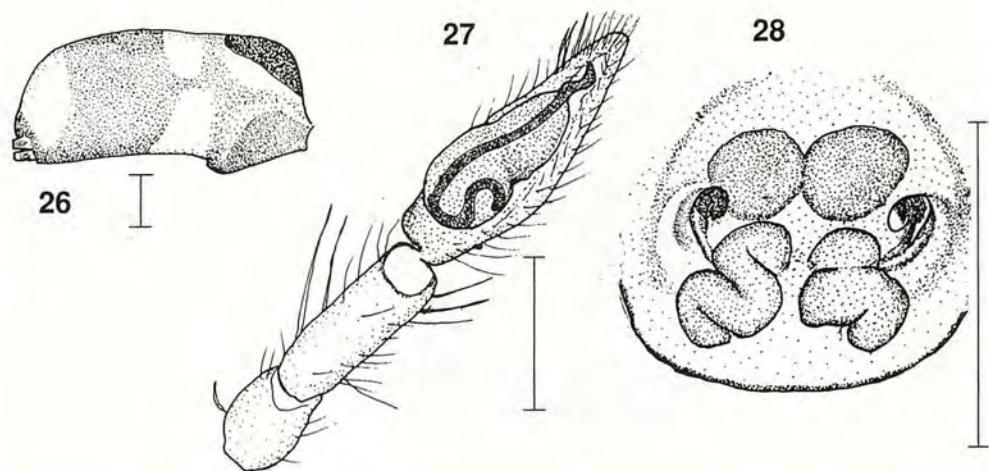


Plate IV. *Castianeira quadritaeniata*. 26, female holotype, abdomen, lateral view; *Corinnomma thorelli*. 27, male, left palp, ventral view. *Corinnomma javanum*. 28, vulva, dorsal view. Scale = 0.5 mm.



Figure 29. *Pranburia mahannopi* n. sp. Male holotype in protective posture, first legs joined in front of the head.



Figure 30. *Pranburia mahannopi* n. sp. First legs separated.